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# Central City Transportation Management Plan

Portland (Or.) Lloyd District Task Force


Shiels & Obletz

JHK & Associates

Meeting Points

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### Recommended Citation

Portland (Or.) Lloyd District Task Force, Shiels & Obletz, JHK & Associates, and Meeting Points, "Central City Transportation Management Plan" (1993). *Portland City Archives*. Paper 26.  
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CENTRAL CITY TRANSPORTATION MANAGEMENT PLAN  
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## RECOMMENDED STRATEGIES

The Lloyd District Task Force was formed to review alternative strategies and advise the Citizen Advisory Committee and Policy Committee with regard to the proposed strategy for the Lloyd District. The proposed strategy from the Lloyd District will be expected to assist the Policy Committee and Citizen Advisory Committee in the development of district plans for the Central City Transportation Management Plan.

The Lloyd District Task Force has reviewed the findings of the consultant team for the Central City Transportation Management Plan. The Task Force has also developed a comprehensive list of transportation issues facing the Lloyd District.

### GOALS

The CCTMP recommended goals are:

1. Improve air quality;
2. Increase use of mass transit and other alternatives to single occupancy vehicles;
3. Improve traffic circulation within the existing capacity of the street system;
4. Preserve pedestrian and urban design elements of the Central City Plan and improve pedestrian and bicycle accessibility throughout the Central City;
5. Encourage development in accordance with guidelines in the Central City Plan emphasizing the importance of major housing development and the importance of attracting key businesses beneficial to each of the districts of the Central City;
6. Coordinate the air quality, mass transit, and traffic requirements and projects with appropriate Metro, County, State and Federal agencies;
7. Promote efficient use of existing parking, through long-term/short-term management and transit alternatives and incentives,, to reduce the 'demand' for parking without hurting development potential.

The Lloyd Task Force recommends that an additional goal be added to the CCTMP:

8. Minimize and mitigate transportation impacts on adjacent neighborhoods.

The Task Force endorses the goals that have been identified for the Central City Transportation Management Plan and is supportive of policy changes that will assure the accomplishment of these goals. The Task Force members wish to emphasize the importance of the approach taken by the committee to the development of the Lloyd District transportation strategy. The overriding goal of the Task Force is to manage traffic and transit such that the build-out of the Lloyd District as envisioned in the Central City Plan occurs in a manner that supports livability as described in the goals.

A considerable amount of the Task Force time has been dedicated to the evaluation of parking control strategies for the District. These strategies are recognized as a key component in a transportation plan, but the strategies also tend to limit development potential for the District. The Task Force recognizes that regulations and controls on parking and automobile use are necessary to reducing congestion and other issues.

Agreement to the following strategy is CONDITIONED upon the development of an effective and approved transportation improvement program developed by Tri-Met (and City of Portland). It is impractical to suggest that the Lloyd District can/will accept the identified regulations without an acceptable transit improvement strategy in place. The Task Force cannot finalize the recommendations until this program is established.

The Task Force is reluctant to support automobile use and parking restrictions without a comprehensive strategy for the development of the Lloyd District and alternative transportation programs particularly transit that will continue the successful development of the District. Therefore, the Task Force recommends that the transportation control measures be implemented only in concert with a clear commitment to transit improvements in support of build-out of the Central City.

The Task Force has evaluated the transportation issues in the District and are prepared to recommend significant changes that involve restrictions on the use and parking of automobiles. Missing from the deliberations of the Task Force have been two key components in the build-out strategy for the District:

1. Transit Expansion Plan: Commitments to expand transit service and promotion of increased transit use that would support increased density in the District.
2. Lloyd District Development Strategy: Attention should be paid to the need to reverse suburban flight of office users and establish some mechanism to create more housing in the Central City particularly in light of the loss of tax increment financing.

The Task Force has prepared recommendations with regard to the transportation management strategy for consideration in the CCTMP. The Task Force has also agreed to reconvene in several months to review the status of recommendations and determine the extent to which a comprehensive strategy has been prepared.

## ISSUES

The analysis of the detailed transportation model for the Lloyd District has identified several key issues facing the District:

1. There is a need to minimize the use of the automobile through increased use of transit particularly during the peak hour.
2. The demand for parking in the District has reached a level where management of the supply is necessary to assure availability to various economic uses.
3. A significant increase in transit use is needed to support the density projected and to minimize conflicts with adjoining neighborhoods.
4. Pedestrian and bicycle access and use must increase to support existing and projected development.
5. Additional economic development and density increase can be accommodated with significant additional residential development.
6. City-wide policies should reflect the unique needs and characteristics of each district.
7. The Lloyd District will experience additional vehicle traffic with the increase in density.

8. Spillover effects in adjoining neighborhoods warrant specific strategies to minimize the impacts of full build-out.

## STRATEGIES

The Task Force has identified specific strategies that are recommended to the Citizen Advisory Committee and Policy Committee to be included in the Lloyd District Transportation Management Plan. The strategies address specific objectives and include discussion of the approach and criteria for applying the specific objectives.

### 1. PARKING

#### 1.1 Install parking meters in the Lloyd District.

Objectives:

- a) Eliminate free on-street commuter spaces;
- b) Transition on-street parking in certain areas in favor of short-term users.

Implementation: Install meters throughout the District establishing short term and long term as required to assure short term availability. Dedicate a substantial portion of the meter revenues to the benefit of the District including mitigating impacts on surrounding neighborhoods. The City's metering strategy should address the need for support of existing residential projects which do not have access to off-street parking.

Discussion: A considerable portion of the on-street parking is being used by long term commuter parkers. The installation of meters will remove free commuter parking in the District. A transition period is anticipated in which long term paid parking on-street will exist in many parts of the District. Priority should be given to assuring short term use as a priority for on-street parking which can be determined by actual use. The meters are recommended over the use of posted parking limitations due to the improved turnover and added revenues. The Task Force recommends that a portion of the revenues from meters be used to benefit the District. A separate strategy is recommended with regard to the use of revenues. " "

The Task Force recognizes that the installation of parking meters in the District will cause additional impacts on facilities that provide free parking such as the Lloyd Center and Red Lion. The installation of the meters should be conducted in close coordination with these facilities to lessen the impacts of change.

#### 1.2 Establish parking ratios for new commercial developments in the District.

Objective: Limit the increase in supply of parking in the District for office and retail use as the density in the District increases.

Implementation: Establish maximum parking ratios for all new commercial developments based upon the density, existing district conditions, land use, transit availability and type of development. Provide a mechanism for developer's to exceed the ratio under certain conditions provided there is demonstrable transportation benefit to the District. Assure parking ratios adequate to support housing and hotel development.

The Lloyd Task Force requests that the recommendations regarding the proposed parking ratios be reviewed by the Task Force prior to adoption.

Discussion: The maximum parking ratio on new commercial developments will begin to constrain the parking supply and further promote the use of alternative modes. Ratios for new development can be successful only if accompanied with the confidence that increasing transit and alternative mode access will assure adequate service to the economic uses. Ratios for new development are only acceptable if effective strategies are in place that increase transit availability.

The ratio for the new developments should be established in a manner that will support the long term development density desired from the Central City Plan. The Task Force is concerned about creating major disincentives for development of the higher density in the District. The option of the monthly fee on parking above the parking ratio is suggested in order to allow greater options for developers regarding new construction. The Task Force is convinced that not allowing this option will further reduce the potential for full development of the District.

The ratios for new developments are recommended to be established on the basis of transit availability. Constraining higher density development by the current level of transit service is not recommended.

Concern has been raised regarding the implementation of ratios throughout the District since there are significant differences in locations. The Broadway/Weidler couplet is an area that is promotion specialty retail successfully. Many of the developments do not include any parking. There are unique examples of new developments which may provide additional parking that relieves the pressure for the corridor. A uniform ratio may prevent such developments. A good example is Holladay's Market that renovated an existing facility with two levels of parking. An arbitrary ratio may have required such parking to be denied.

The Task Force considered several options regarding the ability of certain developments to exceed the ratio including paying a monthly fee for all spaces above the ratio, providing spaces for the use of the district, and providing credit for existing surface spaces. These should all be considered in the implementation.

### 1.3 Manage primary parking facilities and surface parking lots.

Objective: Manage the supply of parking available in the District not tied to specific economic uses.

Implementation: Establish permit process for all new garages and temporary permit process for new surface parking facilities. Parking would be added to support economic uses that need additional parking including:

- Short term parking

- Event parking

- Existing offices with parking substantially below target ratio

Discussion: The development of non-accessory parking in the District has considerable influence on the total supply and price of long term parking. Regulation is recommended for new facilities to assure that agreed purposes for supporting the development of higher density are being met.

1.4 Provide area parking permit programs for neighborhoods.

Objective: Protect neighborhoods from overflow parking from the high density development, particularly with implementation of other strategies.

Implementation: Establish neighborhood parking permit program after meeting with the neighborhood associations and evaluating the extent of the issues created by parking policies implemented in the District. Neighborhoods to be consulted include Sullivan's Gulch, Irvington, Eliot, Kern, and Central Eastside. Consideration should be given to underwriting a portion of the cost of the program with parking meter revenues.

Investigate specialized parking permit program to manage the effects of special events occurring in the Coliseum/Convention Center area.

Discussion: The Task Force recognizes that the area parking permit program places an additional burden on the neighborhoods. The programs have been effective in other areas of the City of Portland. The Task Force urges that the City of Portland conduct informational meetings with each neighborhood association to develop a workable program. The implementation schedule should be developed with the respective neighborhoods.

2. DEMAND MANAGEMENT

2.1 Establish program for employers to support demand management programs.

Objective: Encourage employees to use transit, carpool, rideshare and other alternatives to the single occupant vehicle.

Implementation: Form a Transportation Management Association of District employers to support trip reduction programs that include incentives for employee transit use, carpools and rideshare. It is recommended that Tri-Met provide a full-time transportation coordinator to assist in the organization of the TMA and to work with individual employers to establish programs. Upon achieving a targeted level of employer participation, Tri-Met would agree to implement service improvements to the District.

Discussion: Several examples of successful transportation management programs have been implemented by employers in the District. An incentive for more employers to join the program is needed. The Task Force recommends that transit improvements be used as the incentive for the formation of a successful TMA.

2.2 Require transportation management programs for all new large developments.

Objective: Encourage new employers to utilize transit and alternative modes.

Implementation: Develop strategy for encouraging demand participation for new developments involving greater than 50 employees. Consider requirements for including Tri-Met in Planning Commission reviews of projects.

Discussion: The Task Force recommends that transit be given more serious consideration at the time that new developments are approved. Tri-Met is also encouraged to provide staff assistance to the process by identifying urban design and transit service changes that would improve and transit and alternative modes for the proposed new development.



The Task Force was concerned about placing the responsibility for improved demand management solely on the new developer. It is recommended that a transportation management program be required, but that the responsibility rests equally on the developer and the public agencies involved. At a minimum, Tri-Met issues and proposals during the approval of new developments should be given more formal consideration by the Planning Commission.

### 3. TRANSIT

#### 3.1 Establish more direct bus routes to the Lloyd District from locations throughout the region.

Objective: Assure that the transit alternative is an effective substitute for using the automobile for commuting.

Implementation: It is recommended that Tri-Met agree to participate with a TMA formed by employers supported by Tri-Met staff to develop potential route extensions and condition implementation upon establishment of targeted level of employer participation in transit incentive program. Promote service for employees through the TMA.

#### 3.2 Improve transfer system for Grand Avenue (6) and 12th Avenue (70) lines connecting southeast service.

Objective: Reduce transit travel time for southeast resident commuters to Lloyd District.

Implementation: Revise Tri-Met schedules to assure effective transfers from southeast transit service. Provide promotional materials through TMA to assure that employees are aware of the service.

#### 3.3 Extend Fareless Square for rail to the Lloyd District.

Objective: Increase transit use between the Downtown and Lloyd District.

Implementation: Condition extension of Fareless Square upon the assurance that parking controls are in place to assure that commuters would not be able to park free in the District or park in neighborhoods and use transit to access to Downtown.

Discussion: Considerable interest has been expressed in extending Fareless Square on rail to the Lloyd District. The change would facilitate transit access to the Convention Center to improve marketability for Portland conventions as well as provide convenient access between Downtown office and retail and Lloyd District office and retail. The improved transit is expected to reduce the considerable use of the automobile within the District and between the District and Downtown.

The extension of Fareless Square does present certain challenges to the District including further pressure on the Lloyd Center parking and requirements for parking controls in the District (meters and neighborhood programs). The increased accessibility offered by the extension supports the long term goal of higher density and increased transit use.

The Task Force reviewed the draft Special Fare Zone Implementing Criteria that has been prepared for the Tri-Met Board by the Fareless Square Task Force. The Task Force recommends that an application for Special Fare Zone for rail to Lloyd Center be prepared for submittal to Tri-Met as part of the CCTMP.

3.4 Increase rail frequency by adding trolley service to light rail 7 days per week.

Objective: Establish a high frequency corridor (7.5 minutes) between the Lloyd District and Downtown.

Implementation: It is recommended that the City of Portland use a portion of the revenues from parking meters to support the addition of trolley service on the rail line from Lloyd Center to Downtown. Service could be added from 10 a.m. to 3 p.m. between light rail cars Monday through Friday assuring 7.5 minute frequency for rail service throughout the business day. The other hours, existing rail service meets the higher frequency.

Discussion: The addition of higher frequency service is as important as the extension of Fareless Square in providing the incentive for increased transit use. 15 minute frequency service is not sufficient frequency for the short trip requirement between Lloyd District and Downtown. The expense of adding light rail service to Gresham is not necessary. The trolley vehicles would add to capacity and provide the frequency necessary for more dependable service.

4. SECTOR STRATEGIES

4.1 Establish sectors within the District to enable specific transportation management strategies.

Objective: Target transportation strategies for specific needs of the District.

Implementation: It is recommended that the City of Portland, in conjunction with Transportation Management Association to be set up, develop "mini-plans" for each of the following sectors in the District:

- a) Coliseum, Blazer Arena, and riverfront.
- b) Broadway-Weidler Retail Couplet (16th to River)
- c) North of Multnomah to Weidler 7th to River.
- d) Holladay Park Spine between Multnomah and Oregon Streets.
- e) Convention Center and Lloyd Boulevard edge.
- f) Lloyd Center.

Discussion: The Task Force noted the diversity of the District when it discussed various policies. For example, certain ratios, parking meters, circulation patterns, street design, pedestrian access, or other transportation techniques might be appropriate in one area but different in another part of the District. It would be desirable that smaller, interested groups could focus on the specific details of the broad strategies recommended by the Task Force that would address the specific problems, concerns and issues of each of the Sectors noted above. If the broad strategies served particular sectors, then the detail could be worked out in the ordinary course of events. If a particular sector had immediate needs and involved constituents, there would be a mechanism by which strategies to address those needs could be quickly articulated.

## 5. PEDESTRIAN AND BICYCLE IMPROVEMENTS

### 5.1 Develop pedestrian improvements for the major street crossings in and to the District.

**Objective:** Improve the pedestrian environment in the District to reduce automobile dominance. Achievement of this objective will require the City Engineer and PDOT to accommodate pedestrians on a higher, or at least as high priority as vehicles.

**Implementation:** Identify and prioritize targeted street crossings in the District that require capital improvements. To the extent possible, the City should implement the capital improvements and changes.

**Discussion:** The Task Force supports the pedestrian way system (attached) that was developed by the City of Portland for the District Capital Improvements Program. The Task Force also identified some specific areas that were not apparently addressed in the initial program involving the pedestrian crossings of major roadways in and around the District. The areas of concern in priority order are:

- a.      Broadway/Weidler/15th: A significant retail area that has essentially 6 lanes of traffic or parking to cross with significant turning movements. The Task Force urges that the sidewalks be extended on the corners and lane reductions be considered. Other ideas such as speed of traffic, the number of traffic lights and the frequency should also be considered.
- b.      Broadway/Weidler: The retail corridor from 16th to Grand on Broadway has pedestrian requirements in the Central City Plan. Additional improvements to pedestrian access along various locations is encouraged.
- c.      15th/16th: The Task Force recommends that the new 15th/16th between Weidler and Multnomah contain more pedestrian crossings to enable greater interaction with the neighborhood. The lack of a crossing from Multnomah to Halsey is the concern. Speed of traffic and number of lights should also be reviewed.
- d.      Coliseum: Pedestrian access in the Coliseum/Arena area is expected to change with the new construction. The Task Force urges that pedestrians be accommodated from all directions.
- e.      Grand/MLK: The Grand/MLK crossings involve considerable distance and traffic conflicts. The area of specific interest is at the Convention Center and Holladay where considerable transit transfers are expected to occur.

### 5.2 Incorporate proposed pedestrian way system in the Central City Plan.

**Objective:** Increase pedestrian trips in the District.

**Implementation:** It is recommended that the Bureau of Planning review the Central City Plan for the potential of incorporating the proposed pedestrian way system.

**Discussion:** The Task Force reviewed the current regulations for the Lloyd District including required retail, building line requirements, residential requirements, first floor windows and pedestrian district. The regulations appeared to be appropriate for the District.

The Task Force was concerned about the ability for developments to avoid the pedestrian enhancement requirements if set back 15 feet from the property line. It is recommended that the ground floor window requirements be assured for areas where the pedestrian ways are proposed.

5.3 Incorporate bicycle component in the CCTMP.

Objective: Increase the use of bicycles in the District.

Implementation: It is recommended that the capital improvements strategy and specific regulations developed for the Lloyd District include requirements for bike parking and demand management that reflect the bicycle component.

6. CIRCULATION

6.1 Incorporate recommended circulation and access improvements for the District.

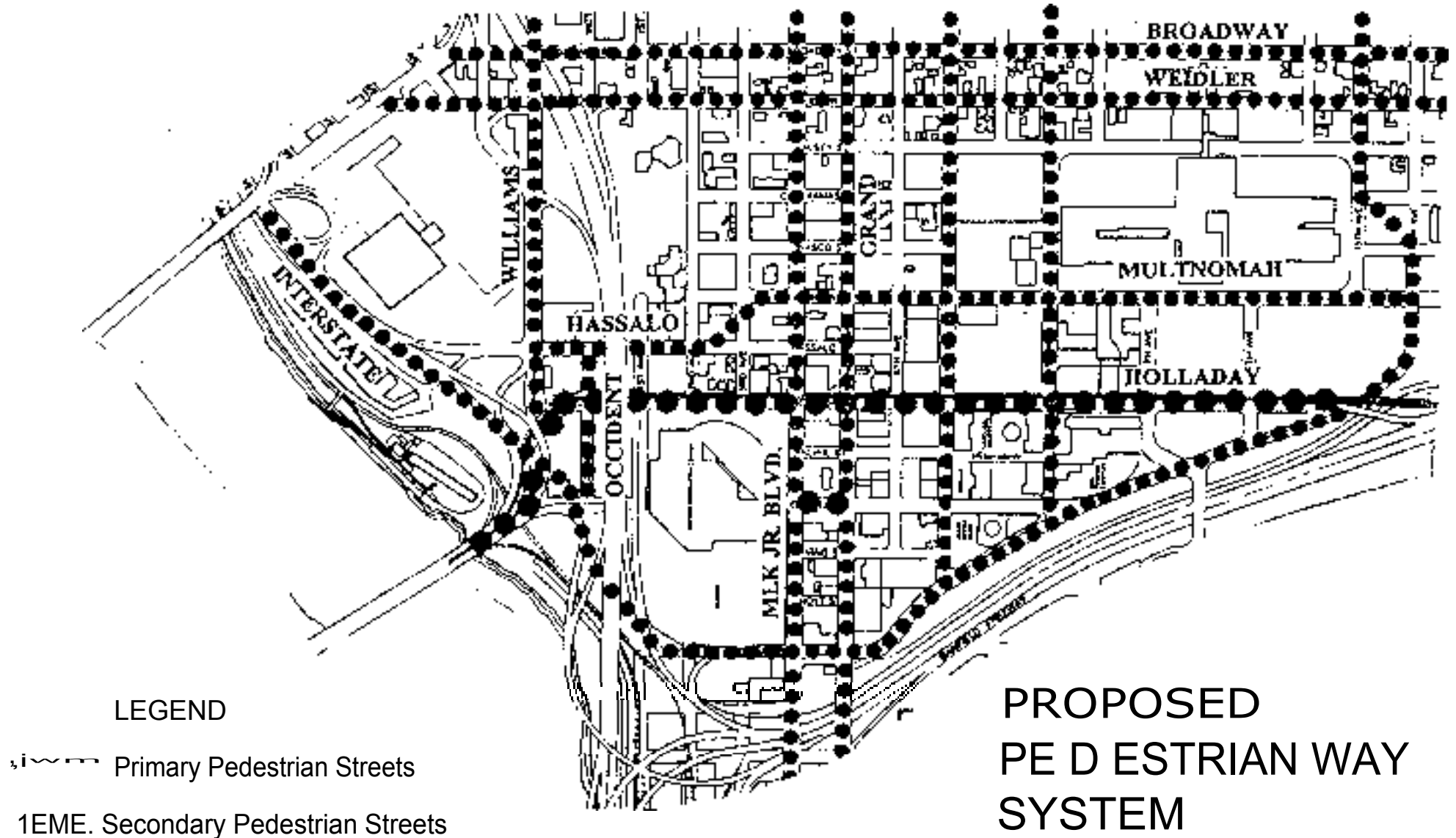
Objective: Utilize the street and freeway capacity efficiently to eliminate congestion.

Implementation: Present results of the Circulation and Access Study being conducted by the City of Portland to the Lloyd Task Force.

Discussion: The City of Portland is preparing a Circulation and Access Study based upon the results of the technical analysis of the high growth scenario for the Central City. The primary congestion problem identified in the study is access to the regional freeway system. The Task Force recognizes that there will be an increase in the amount of automobile traffic with the growth of the District.

The Task Force supports improvements to the access system. It is recommended that the results of the Circulation and Access Study be presented to the Lloyd Task Force for review. Of particular interest are projects that have been included in the 2010 assumed network that need to be implemented by the appropriate agency. A particular priority for the District is 1-5 North (Greely) improvement project which include safety and access improvements.

# LLOYD CENTER-COUSEUM



## TRANSPORTATION ISSUES

The Lloyd District Task Force developed a list of transportation issues facing the District. These issues were identified by the Task Force as part of an assessment of the concerns of District residents and businesses. The purpose of the identification of the issues was guide the evaluation of the strategies recommended in the first section of this report. They are listed under the following categories:

1. Transit.
2. Transportation management, bicycle, pedestrian.
3. Traffic circulation and congestion.
4. Air quality.
5. Parking availability and management.
6. Urban design and pedestrian amenities.
7. Development and redevelopment.
8. Neighborhood impacts

The issues are intended to be addressed by the Transportation Management Plan to be developed for the Lloyd District.

### Transit and Other Modes

1. Coliseum Transfer Center: A transfer center has been established at the Coliseum which facilitates transit access from North Portland to the Lloyd District.
2. Westside Light Rail: The additional light rail line planned will provide direct transit access for the Lloyd District from the Westside.
3. Low Mode Split: Currently, 4% of all trips to the District are on transit. Projections to 2010 indicate that 10% to 11% of all trips would be on transit. This is a considerable increase in usage.
4. Transfer Access: Transit access to the Lloyd District requires bus transfers from Southeast Portland, Suburban South, and Westside. This appears to be a significant constraint to transit usage.
5. Vancouver Service: Direct service to the District has been implemented by C-Tran of Vancouver.
6. Fareless Square: A recent task force completed recommendations on policies for Tri-Met to extend Fareless Square to the District.
7. 10 Minute Corridor: Tri-Met is evaluating the potential of high frequency corridors with several Lloyd District lines under consideration. The corridors are intended to increase confidence in transferring and use of transit for more trips.

8. Holladay Street Improvements: Currently under construction, the Holladay Street improvements are intended to support the pedestrian and transit spine for the District.
9. Transit Service Access: Numerous lines directly enter the Lloyd District from the Northeast neighborhoods. Recently, Line 57X has been extended to service the District. Service coverage is extensive, but the Coliseum Transfer Station is not located where the highest commuter density exists.
10. Bus Shelter Study: Tri-Met is conducting a study of bus shelter locations with some potential for adding shelters to stops with high passenger use.
11. Central City Trolley: The study conducted by the City of Portland on Central City Trolley has recommended a trolley connection from the District to the Central Eastside.
12. Vintage Trolley: Vintage Trolley service was introduced in 1991 as an added connector from the District to downtown.
13. MAX Frequency: Increasing frequency of MAX between downtown and the Lloyd District would attract more transit riders.

### Bicycle and Pedestrian

1. Pedestrian and Bicycle Modal Choice: Encourage walking and bicycling as a travel mode for access into and within the Lloyd District.
2. Bicycle Enhancements: The transportation improvements planned for the District include designation of bike paths in the District.
3. Bicycle Bridge Crossings: Multnomah County is conducting a bicycle/pedestrian study for bridges that include consideration of the Broadway and Steel Bridges.
4. Enhanced Pedestrian Access: Recent improvements in the District have included consideration for pedestrian access and amenities. Proposed standards for pedestrians have been prepared for the City.
5. Bikes on Transit: Encourage the use of bikes on transit to promote non-automobile travel modes.
6. Traffic Speeds on Broadway/Weidler: High vehicle speeds on Broadway/Weidler is a barrier to pedestrian movement across this traffic couplet.

### Traffic Circulation and Congestion

1. Broadway/Weidler Congestion: The use of Broadway/Weidler during the peak appears to be near capacity with turning movements at 7th and 9th being difficult and the projected revisions at 15th are expected to have a similar problem.
2. Intra-District Trips: There appears to be considerable use of the automobile for trips within the District between the retail area and the Oregon Convention Center.
3. Revised Circulation Plan: The City of Portland is implementing a revised circulation plan intended to create a "ring road" that would divert through trips and improve internal circulation.

4. 1-5 Improvements: The current 1-5 ramps from Williams Avenue experience considerable congestion during the peak due to the weaving movement required with 1-84 at the ramps. ODOT is evaluating alternative ramp configurations that may improve that situation.
5. Hassalo/Williams Closure: The proposed closure of the connection to 1-5 from Hassalo will limit access to 1-5 south to Broadway/Weidler which is apparently at capacity.
6. Signals: The signal system is synchronized for Broadway/Weidler and MLK/Grand but several crossing areas experience considerable problems such as 7th and 9th. The new ring road has a similar signal problem at MLK/Grand.
7. Bridgeheads: Traffic circulation problems and congestion exist at the bridgehead

### Air Quality

1. No Measurement of Carbon Monoxide: Tests for potential air quality violations have not been conducted in the District.
2. Potential Measurement: DEQ has considered placing equipment in the District for potential measurement.

### Parking Availability and Management

1. On-Street Parking: There is growing competition for parking on street between commuters and retail interests. A substantial portion of on-street parking is being used by District commuters.
2. Carpool Parking: Designated areas for carpools for on-street parking have been established and are used.
3. Paid Parking: Paid parking in structures is becoming more prevalent as the density increases.
4. Posted Short Term Parking: Certain areas have been posted for one-hour and two-hour parking to reserve spaces for retail customers. Enforcement of the space can be difficult since the vehicle must be clearly identified twice by patrol in order to be ticketed.
5. Transit Users Parking: It appears that commuters use parking in the District to enable access to light rail to downtown. The parking in the Coliseum area is the most prominently used.
6. No Parking Management: There currently exists limited regulations on the amount of parking that a new development must observe. This is contrasted with the considerable management in the downtown necessitated by the higher density.
7. Commuter Parking: The pressure for parking by commuters has grown with the density of the District. Commuters are reported to be parking on street, in neighborhoods, and in paid parking structures.
8. Lloyd Center: Lloyd Center provides free parking to customers. The facility is patrolled in the morning to prevent commuter use. Some use is still experienced. The parking demand during the holiday season exceeds the supply at the Center.
9. Broadway/Weidler: Parking requirements are different in this corridor due to varying types of demand for commuters, employees, retail, special events, and residential.



10. Special Event Parking: Major events impact parking in the District and adjacent neighborhoods, especially with simultaneous events at the Convention Center and Coliseum. This problem will increase with the new Arena.
11. Security: There is a need for increased police security because of crime and parking issues.
12. Neighborhood Parking: Lloyd District employees are increasingly parking in the residential areas. Problems will increase if parking costs rise.
13. Public Parking Financial Support: There are no public financial programs to construct parking facilities in the Lloyd District similar to the downtown program.
14. Lloyd Center: Parking is inadequate during the Holiday Season.
15. Successful Company Plans: Several employers have successfully introduced transit and transportation management plans that have significantly reduced the single occupant automobile commuter.

### Urban Design and Pedestrian Amenities

1. Lloyd District Standards: The City of Portland has developed proposed standards for pedestrian amenities.
2. Holladay Street Connection: Improvements are being made on Holladay to establish a pedestrian/transit street that connects the Lloyd Center to the Oregon Convention Center.
3. Holladay Park: Pedestrian improvements are being implemented at Holladay Park.
4. 12th Avenue Bridge: There appears to be considerable use of the 12th Avenue Bridge as a pedestrian connection to the District. Improvements in that area needed.
5. Pedestrian Environment: There has been considerable improvement in the pedestrian environment with plazas and retail opening to the street. Some areas have not yet addressed the need for improved pedestrian environment.
6. Broadway/Weidler Pedestrian Friendliness: Consideration should be given to develop urban design guidelines to enhance the pedestrian friendliness in this corridor.
7. River Access: Improve access to the river, include improving the esplanade.
8. Public Campus: Improve pedestrian connections between the public campus area (Metro Building, State Office Tower, and Federal Buildings) and the convention center and arena.

### Development and Redevelopment

1. Lloyd Center: The recently completed Lloyd Center has significantly expanded retail activity in the District.
2. Convention Center: The Oregon Convention Center has added a significant attractor to the District.

3. Broadway/Weidler: The Broadway/Weidler couplet has experienced considerable retail development with numerous additional proposals for more retail and mixed use.
4. State Office Building: The recently completed State Office Building adds significant employment to the District.
5. Metro: The Metro Building is under construction and will add more employment.
6. Housing: Several high density housing projects are planned for the District.
7. Arena: The Trailblazer Arena will add another major attraction to the District. This project will include office, restaurants, night clubs, and waterfront activities in addition to the Arena.
8. Headquarter Hotel: This proposed facility will add to the character and employment base in the District. It will also increase pedestrian and transit activities.

### Neighborhood Impacts

1. Eliot Neighborhood: The increase in events at the Memorial Coliseum and new Trailblazer Arena are expected to cause greater parking use in the Eliot Neighborhood.
2. Sullivan's Gulch: Traffic from Lloyd District is entering neighborhood streets in Sullivan's Gulch particularly off 16th Avenue moving toward 21st. The circulation plan is expected to address some of the encroachment.  
  
Parking by District commuters appears to be occurring in the neighborhood.
3. Irvington and Eliot: The emergence of the Broadway/Weidler retail has caused greater competition for parking. Some encroachment is being experienced.  
  
The increased density is also placing pressure on 15th and 7th Avenues through the District. Traffic calming devices have been installed on 7th and are being evaluated for 15th.
4. Central Eastside Industrial District: It appears that District commuter parking is occurring in the area south of I-84 in the Central Eastside Industrial District.
5. Fareless Square: If Fareless Square is implemented in the Lloyd District, the adjacent neighborhoods could become park-and-ride areas for commuters.
6. Sullivan's Gulch: The west end of the neighborhood is experiencing increased parking from retail employees and customers.

## TECHNICAL ANALYSIS

Prepared by:   Shiels & Obletz  
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Located in the northeastern portion of the Central City Study Area and flanked by the Willamette River as illustrated in Figure 1, the Lloyd District currently contains the most intensive development outside of *Portland's downtown*. *Several major Central City* destinations lie within its boundaries, including the Lloyd Center and Memorial Coliseum, the recently constructed Oregon Convention Center, and construction is planned for the new arena.

Two growth scenarios for 2010 were compared to 1990 transportation conditions. The historical growth patterns included in the Regional Transportation Plan were projected and are referred to as 2010 RTP. A high growth scenario for 2010 was also tested and referred to as 2010 HG.

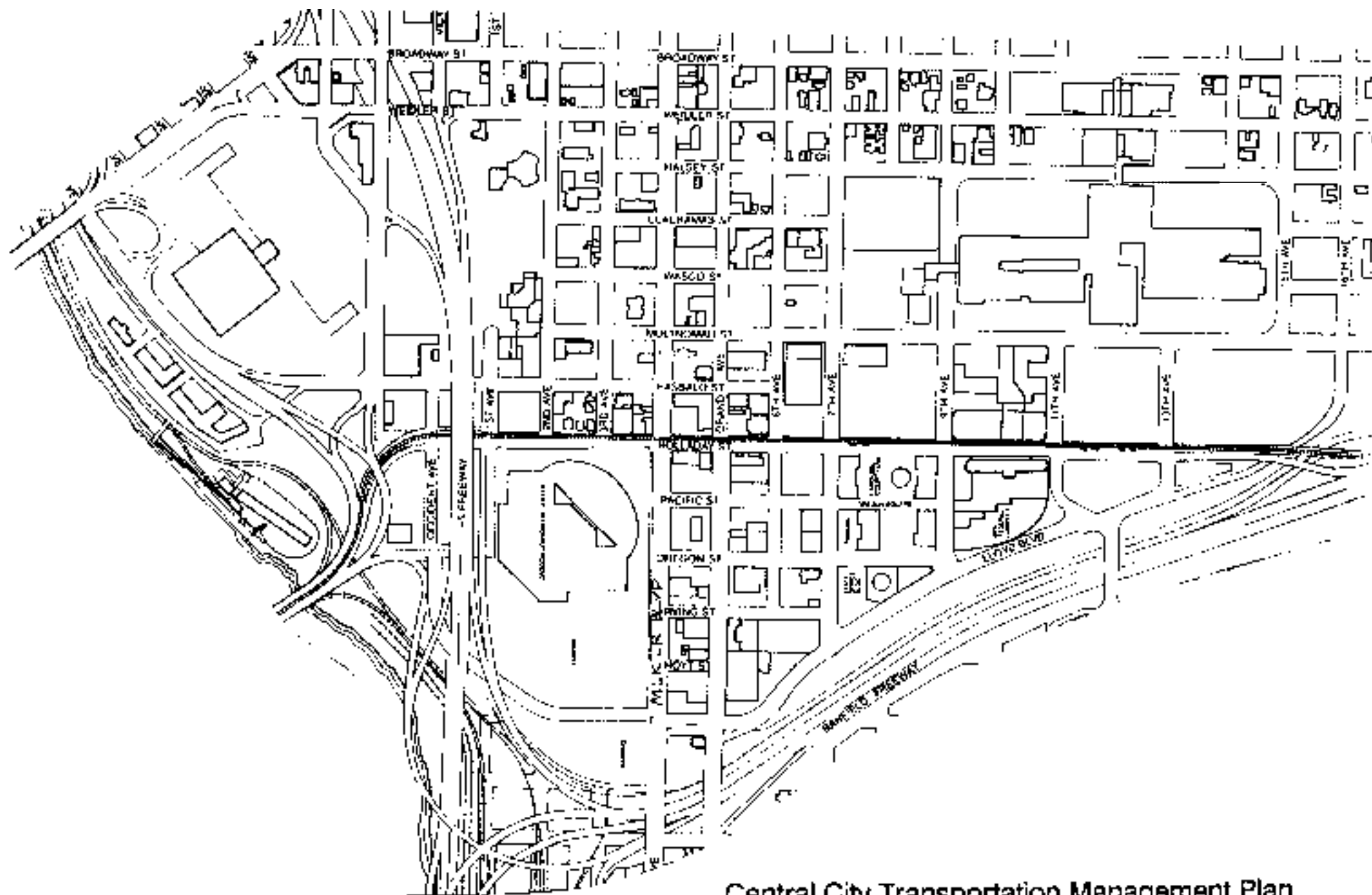
The modeling effort was conducted for the Central City in greater detail for Central City districts to enable detailed analysis of transportation issues by district. This analysis is intended to serve as the technical basis for the development of transportation plans for each Central City district.

### Development

The projected Central City growth for both scenarios was allocated to districts based upon planned projects and expected growth. Employment in the District is estimated for 1990 at 20,000 employees and a resident population of 2,000. The *2010 RTP* assumed 6,100 new jobs, no additional dwelling units, and 590,000 square feet of additional retail development. The 2010 HG assumed 16,000 new jobs, 2,000 additional dwelling units and 1,085,000 square feet of additional retail.

An estimated 134 acres of land in the Lloyd District have possible strong potential for development or redevelopment. Of these, most are in areas zoned for commercial purposes. The high growth scenario is not expected to approach build-out of the Lloyd District.

Total daily person-trip attractions to the Lloyd District increase from 108,192 in 1990 to 163,144 HG. The considerable increase in person-trip attractions reflects the projected high growth for the District. Table 1 provides the detailed projections for 1990 and 2010 HG.



Central City Transportation Management Plan  
**COLISEUM-LLOYD CENTER DISTRICT**

TABLE 1  
DAILY PERSON-TRIP ATTRACTIONS TO THE LLOYD CENTER

| FROM                                      | 1990           | 2010 HIGH GROWTH |
|---|----------------|------------------|
| Central City                              | 9,554 (9%)     | 19,895 (12%)     |
| Portland Region<br>(Outside Central City) | 89,683 (83%)   | 127,529 (78%)    |
| Intra-District                            | 8,954 (8%)     | 15,720 (10%)     |
| Total                                     | 108,192 (100%) | 163,144 (100%)   |
| PURPOSE                                   | 1990           | 2010 HIGH GROWTH |
| HBW                                       | 23,497 (23.7%) | 45,356 (30.8%)   |
| HBO                                       | 43,549 (43.9%) | 59,139 (40.1%)   |
| School                                    | 93 (0%)        | 483 (0.3%)       |
| College                                   | 0 (-)          | 0 (-)            |
| NHBW                                      | 11,752 (11.8%) | 15,127 (10.3%)   |
| NHBNW                                     | 20,347 (20.6%) | 27,318 (18.5%)   |
| Total                                     | 99,238 (100%)  | 147,424 (100%)   |
| MODE                                      | 1990           | 2010 HIGH GROWTH |
| Auto                                      | 92,412 (94%)   | 125,180 (85%)    |
| Transit                                   | 4,062 (4%)     | 17,497 (12%)     |
| Walk/Bike                                 | 1,764 (2%)     | 4,747 (3%)       |
| Total                                     | 99,238 (100%)  | 147,424 (100%)   |

### Transit and Alternative Modes

The transit system assumed for the year 2010 RTP and High Growth includes light rail in the Vancouver Corridor, Milwaukie Corridor, and the I-205 Corridor in addition to the Banfield and West Side. Service hours are projected to increase 2.4% per year.

Home based work trip (HBW) attractions to the Lloyd District are an indicator of the commuter trips to the District. Excluded are the non-home based work trips to the District. The projections for 2010 HG indicate a significant increase in transit use by commuters from 8% (1990) to 27% (2010 HG). The total HBW attractions on transit increases from 1,828 to 12,076. Nearly 10,000 additional transit commuters are projected for the Lloyd District which is more than 50% of the projected 16,000 new employees in the District.

HBW Productions increase from 17% (1990) to 22% (2010 HG). Productions are work trips beginning in the District traveling outside the District to work. The projections are that a considerable increase in walk and bicycle (10%) is expected for residential mode choice. Table 2 provides the daily HBW attractions and productions projected for 1990 and 2010 HG.

TABLE 2  
DAILY HBW ATTRACTIONS AND PRODUCTIONS TO/FROM THE LLOYD CENTER BY MODE

| MODE      | 1990          |             | 2010 HIGH GROWTH |              |
|-----------|---------------|-------------|------------------|--------------|
|           | Attractions   | Productions | Attractions      | Productions  |
| Auto      | 21,120 (90%)  | 306 (76%)   | 32,141 (71%)     | 1,377 (68%)  |
| Transit   | 1,828 (8%)    | 69 (17%)    | 12,076 (27%)     | 444 (22%)    |
| Walk/Bike | 549 (2%)      | 28 (7%)     | 1,139 (2%)       | 196 (10%a)   |
| Total     | 23,497 (100%) | 403 (100%)  | 45,356 (100%)    | 2,017 (100%) |

## Circulation

The 2010 High Growth Scenario predicts 28,094 p.m. peak hour vehicle-miles-of-travel in the Lloyd District. This number is 25% higher than the 22,455 vehicle-miles-of-travel modeled for 1990. Daily vehicle trips attracted to the District are 80,995 in 1990 and 109,671 in the 2010 HG. This number includes intra-district trips and is based on vehicle occupancies by trip purpose provided from Metro.

Table 3 provides the estimate of p.m. peak hour vehicle trips in the Lloyd District for 1990 and 2010 HG. A total of 4,258 additional vehicles are projected to enter the District in 2010 HG. The additional vehicles is projected to be the largest total number for any district in the Central City. The primary reason for the increase in vehicles is the projected increase of 16,000 new jobs in the District. It is projected that a considerable number of the new jobs will use alternatives to the automobile during the peak hour.

TABLE 3  
P.M. PEAK HOUR VEHICLE TRIPS GENERATED - LLOYD CENTER

|                  | ORIGINATING<br>IN DISTRICT | DESTINATION<br>IN DISTRICT | INTRA-DISTRICT |
|------------------|----------------------------|----------------------------|----------------|
| 1990             |                            |                            |                |
| HBW              | 2,343                      | 219                        | 3              |
| Other            | 3,130                      | 3,009                      | 550            |
| Total            | 5,473                      | 3,228                      | 553            |
| 2010 High Growth |                            |                            |                |
| HBW              | 3,452                      | 430                        | 22             |
| Other            | 4,726                      | 3,962                      | 920            |
| Total            | 8,178                      | 4,392                      | 942            |

Critical intersections in the District were evaluated along with freeway access ramps. The circulation deficiencies in the District are limited primarily to the 1-84/1-5 intersection and adjacent ramps. Neighboring the District, the East Burnside/MLK intersection is projected to operate at Level of Service F. The complete Circulation and Access Study for the District is being conducted by the consultant team. Even with considerable increases in vehicles, the District appears to have sufficient capacity to accommodate the traffic within reasonable levels of service.

## Air Quality

Carbon monoxide emissions were evaluated based upon the projections of auto use for 2010 RTP and 2010 HG. The evaluations were conducted at locations selected by the Oregon Department of Environmental Quality. Two sensitive receptors were modeled in the Lloyd District at N.E. Weidler between 6th Avenue and Grand Avenue and N.B. Broadway north of Larrabee Avenue.

The two locations modeled included estimates of traffic volumes, revised speeds based upon congestion, and improved tailpipe emissions for automobiles. Table 4 indicates the estimated reductions in projected emissions for 2010 scenarios. In all cases, it is projected that greater than 50% reduction in carbon monoxide emissions will occur. Carbon monoxide emissions are not expected to approach exceedances in the District.

TABLE 4  
CHANGE IN ESTIMATED AVERAGE EIGHT-HOUR CO EMISSIONS  
FOR LOCATIONS IN THE LLOYD CENTER

| LOCATION                                       | PERCENT CHANGE FROM 1990 |                  |
|--|--------------------------|------------------|
|  | 2010 RTP                 | 2010 HIGH GROWTH |
| 1. NE Weidler between NE 6th Ave and Grand Ave | -58.4%                   | -50.2%           |
| 2. NE Broadway north of Larrabee Ave           | -79.5%                   | =76.2%           |

## Parking

Parking costs for the Lloyd District are projected to increase at a rate of 1% per year above inflation for the 20 year time horizon. The parking cost average for the entire District is assumed to be 50% of the parking cost in Downtown. Some areas of the District may have higher costs in relation to Downtown while others have a lower or no cost for parking. The average is assumed to be 50%.

Based upon the High Growth Scenario of 16,000 new jobs and 2,000 new dwelling units as well as hotel and retail development, a projection for additional parking was prepared by the City of Portland. Table 5 provides the estimated parking supply in 1990 for on-street and off-street parking and an estimate based upon growth for 2010 PIG. The estimated increase in parking is based upon the assumptions regarding the addition of parking for various uses.

|           |                       |
|-----------|-----------------------|
| office    | 2.0 spaces/1,000 s.f. |
| retail    | 1.2 spaces/1,000 s.f. |
| attractor | 1.2 spaces/1,000 s.f. |
| housing   | 1.2 spaces/1,000 s.f. |
| lodging   | 1.1 spaces/1,000 s.f. |

TABLE 5  
PROJECTED NON-EXEMPT PARKING SPACES FOR THE LLOYD CENTER

| PARKING      | 1990          | 2010 HIGH GROWTH |
|--------------|---------------|------------------|
| On-Street    | 1,775         | 1,775            |
| Off-Street   | 15,862        | 20,625           |
| <u>Total</u> | <u>17,637</u> | <u>22,400</u>    |

The existing daily turnover rates for on-street parking is 7.22 and off-street is 1.83 vehicles per space per day. The total daily demand for parking spaces in the 2010 HG is expected to increase by 38% from 1990. The expected additions to the supply are sufficient to accommodate the demand. The balance of the supply and demand for parking is a critical factor in achieving the projected transit ridership. The price of parking in the District will be a significant factor in the use of transit.

## Conclusions

1. Projected increases in vehicle trips to the Lloyd District will result in increased congestion on the freeway system.
2. The increased density of the District is expected to be accompanied with a significant increase in transit use by the District.
3. The parking in the District can be accommodated with fewer spaces in the future due to the expected increase in transit use.
4. Carbon monoxide emissions are not expected to be a problem for the District.